NJDOT Bureau of Research
QUARTERLY PROGRESS REPORT
Date of report: March 17, 2008
Reporting period: January 1 to March 17, 2008

Project Title:	Design and Evaluation of Effective Crosswalk Illumination
RFP NUMBER: 2008-03	NJDOT RESEARCH PROJECT MANAGER: Lad Szalaj
TASK ORDER NUMBER: RFCUNY 34	PRINCIPAL INVESTIGATOR: John Bullough, Mark Rea
Project Starting Date: ASAP Project Ending Date: 15 months from start	Period Starting Date: January 1, 2008 Period Ending Date: March 17, 2008

Tasks/Activities	% of Total	% of Task this period	% of Task to date	% of Total Complete
1. Review literature	10%	0%	0%	0%
2. Develop concepts	10%	0%	0%	0%
3. Test and refine concepts	15%	0%	0%	0%
4. Develop mock-up configurations	10%	0%	0%	0%
5. Identify candidate for field deployment	20%	0%	0%	0%
6. Short-term field evaluation	20%	0%	0%	0%
7. Implementation plan	5%	0%	0%	0%
8. Final report	10%	0%	0%	0%
TOTAL	100%	0%	0%	0%

1. **Project Objective:** *(to be completed)*

To evaluate a series of lighting concepts for crosswalk illumination, culminating in a field demonstration of a promising system.

2. Proposed activities for this quarter by task and anticipated percentage complete by end of quarter: *(to be completed)*

Contracting between NJDOT and UTRC is ongoing. As soon as this is completed and a contract between UTRC is executed, the project team will begin with Tasks 1 and 2 at the initiation of the project.

3. List of deliverables provided in this quarter by task (product date): *(to be completed)*

None; project has not yet officially started.

4. Progress on Implementation and Training Activities: *(to be completed)*

This will be addressed in Task 7 of the project.

5. Problems/Proposed Solutions: *(to be completed)*

We are expecting the project to begin officially very soon.

BUDGET EXPENDED AND REMAINING

Total Project Budget (NJDOT Share Only)	$68,129
Modified Contract Amount:	$68.129
Total Project Expenditure to date	$0
% of Total Project Budget Expended	0%

NJDOT Bureau of Research
QUARTERLY PROGRESS REPORT
Date of report: March 19, 2008
Reporting period: Jan. 1, 2008 to March 31, 2008

Project Title:	Evaluation of the New Jersey Graduated Driver's License System Phase 2 – Year 1
RFP NUMBER: 2008-15	NJDOT RESEARCH PROJECT MANAGER: Ed Kondrath
TASK ORDER NUMBER: RFCUNY 33	PRINCIPAL INVESTIGATOR: Claire McKnight
Project Starting Date: January 1, 2008 Year 1- Project Ending Date: 12/31/08	Period Starting Date: January 1, 2008 Period Ending Date: March 31, 2008

Tasks/Activities	% of Total Year 1	% of Task this period	% of Task to date	% of Total Complete
1.Description of State GDL Programs	15	20	20	3
2. Data transfer	15	5	5	.75
3. Preliminary analysis	25			0
4. Analysis of crash data	25			0
5. Comparison with control group	20			0
6. Final Report	0			0
TOTAL	100%			3.75

1. **Project Objective:** *(to be completed)*

   Determine the effectiveness of the New Jersey GDL in reducing crashes among young drivers; and
   Recommend measures for increasing the effectiveness of the New Jersey GDL, if needed, to achieve additional crash reductions among young drivers.

2. Proposed activities for this quarter by task and anticipated percentage complete by end of quarter: *(to be completed)*

Planning for meeting with William Beans concerning data.

3. List of deliverables provided in this quarter by task (product date): *(to be completed)*

None

4. Progress on Implementation and Training Activities:

No implementation or training activities anticipated for 1st Quarter.

5. Problems/Proposed Solutions:

The contract has not yet been signed; we cannot hire or expend any funds.

BUDGET EXPENDED AND REMAINING

Total Project Budget (NJDOT Share Only)	$113,580
Modified Contract Amount:	$0
Total Project Expenditure to date	$0
% of Total Project Budget Expended	0%

NJDOT Bureau of Research
QUARTERLY PROGRESS REPORT
Date of report: March 12, 2008
Reporting period: January 1 to March 31, 2008

Project Title:	Portable Work Zone Barrier-Balsi Beam
RFP NUMBER: 2007-14	NJDOT RESEARCH PROJECT MANAGER: Edward Kondrath
TASK ORDER NUMBER: RFCUNY 29 – Mod.#1	PRINCIPAL INVESTIGATOR: Robert Paaswell
Project Starting Date: 1/1/ 2007 Project Ending Date: 12/31/2008	Period Starting Date: January 1, 2008 Period Ending Date: March 31, 2008

Tasks for Phase I – Fabrication	**% of Total**	**% of Task this quarter**	**% of Task to date**	**% of Total Complete**
Task 1: Advisory Committee meetings and presentations	30%	5%	95%	28.5%
Task 2: Licensing, Cost Estimates	50%	30%	50%	25%
Task 3: Documentation	20%	20%	60%	12%
TOTAL	100%			65.5%

Project Objective:
The objectives of this project are the fabrication, implementation, and evaluation of the Caltrans Balsi Beam portable protection device for the safety of New Jersey Department of Transportation workers in short duration highway work operations. This two-phase project will build on the results of the previous study, "Identification of Traffic Control Devices for Mobile and Short Duration Work Operations," which identified the potential for the Balsi Beam to protect exposed highway workers along the shoulder and in the traveled lanes of high traffic, high speed areas.

Project Abstract:
This work will focus on the fabrication and implementation of the Balsi Beam which is a truck mounted, moveable, expandable beam that provides positive work zone protection comparable to a fixed concrete barrier. It is specifically intended to enhance worker safety when carrying out shoulder repair in work zones adjacent to guardrails, inlet repair, bridge rails, bridge deck repair, sound walls and other work where workers are normally exposed to traffic or behind cones in limited work areas for several hours. Usually the shadow vehicle or the truck mounted attenuator provides protection from rear end collisions; the new device provides protection from adjacent lane traffic.

The Balsi Beam provides positive, steel beam protection system for exposed workers who normally work behind temporary cones and barrels in limited work areas. The TL-3 crash test at the Texas Transportation Institute shows that the beam does not deflect as

conventional unpinned portable concrete median barrier in such crashes. The Balsi Beam is practically applicable to bridge and concrete repair projects where workers are concentrated in small areas over a one day period or less.

The Balsi Beam was developed by the California Department of Transportation, Federal Highway Administration and the Texas Transportation Institute under the Strategic Highway Research Program. The device was implemented by Caltrans on Interstate Route 80 in northern California. The Caltrans implementation identified the ease of transporting the beam to the job site, ease of set up and ability of workers to work in the protected areas. Caltrans is able to use small front end loaders, compressors and other such equipment in the protected area. Workers like the protection of a positive barrier between them and high speed traffic.

1. Progress this quarter by task:

- The Licensing agreement has been received from CALTRANS and has been submitted for signatures to NJDOT.
- The research team has identified three equipment manufacturers who may provide a cost estimates as soon as the licensing agreement is signed.

2. Proposed activities for next quarter (April 1, 2008 – June 30, 2008) by task, and anticipated percentage complete by end of quarter.

- After the signature of the licensing agreement, the research team will work with Caltrans to receive all the drawings and will submit them to manufacturers for costs estimates. A document of costs estimates will be prepared for NJDOT.

3. List of deliverables provided in this quarter by task (product date)

Licensing Agreement from CALTRANS.

4. Progress on Implementation and Training Activities
NA

5. Problems/Proposed Solutions
NA

BUDGET EXPENDED AND REMAINING

Year 1 Total Project Budget	$23,170
Modified Contract Amount:	**$43,120**
Total Project Expenditure to date	$20,000
% of Total Project Budget Expended	47%

NJDOT Bureau of Research
QUARTERLY PROGRESS REPORT
Date of report: April 27, 2007
Report revised: July 16, 2007
Reporting period: January 1 to March 31

Project Title:	Transit-Oriented Development Benefits of New Transit Service: RiverLine

RFP NUMBER: 2007-04	NJDOT RESEARCH PROJECT MANAGER: Edward Kondrath
TASK ORDER NUMBER: RFCUNY 28 – Mod. #1	PRINCIPAL INVESTIGATOR: Daniel Chatman
Project Starting Date: 1/1/ 2007 Project Ending Date: 12/31/2008	Period Starting Date: January 1, 2008 Period Ending Date: March 31, 2008

Activity	**% of Task Complete**
Task 1.1 – Review literature and data	100%
Task 1.2 – Develop/revised detailed work plan	100%
Task 2.1 – Assemble secondary data	90%
Task 2.2 – Design original data collection	90%
Task 2.3 – Land development benefits	50%
Task 2.4 – Economic development benefits	5%
Task 2.5 – Travel and smart growth benefits	5%
Task 2.6 – Prepare/submit reports	0%

Project Objectives:

- Identify best practices for evaluating various economic and public benefits of rail investments, including land development impacts, employment changes, job creation, and travel time reductions.
- Collect original data and compile secondary data to assist with current estimates of impact, and also to establish a baseline case for use in follow-up studies of the line.
- Quantitatively estimate benefits of the rail investment, both (a) current short-term and (b) anticipated long-term. These benefits may include job growth, employment rate improvements, congestion reduction, new development, and land value increases.

- Quantify the extent to which development nearby is the result of the light rail investment.
- Characterize the nature of light-rail-attributable development (is it "smart growth?").
- Qualitatively characterize, and measure perceptions of River LINE investment benefits (as measured in any of the above ways—job growth, development, accessibility, etc), focusing on actors influencing or making location decisions and/or investment decisions (e.g., developers, government officials, and households).

Project Abstract:

The purpose of this research project is twofold. First, we will test the hypothesis that the River Line has stimulated economic growth and development in the corridor that would not have otherwise occurred. Second, we will investigate whether government, developer, business, and household perceptions of the River Line have effects distinct from the River Line's objective influences on travel time and accessibility in the region.

PROGRESS BY TASK FOR THIS REPORTING PERIOD

The following activities were undertaken by the research team during this reporting period. The percentage of each task that has been completed is noted in parentheses.

- Phase II, Task 1 (90%)
  - Additional data collection
- Phase II, Task 2 (90%):
  - Pretest firm and household surveys
  - Revised firm and household survey instruments
- Phase II, Task 3: Land development benefits (50%)
  - Assemble data for sales value analysis (100%)
  - Assemble data for permit analysis (100%)
  - Write up history of RL development (75%)
  - Describe ridership and service characteristics: compare travel accessibility in region pre/post opening (15%)
  - Land value analysis (15%)
  - Describe south New Jersey land use, travel and employment context (5%)
- Phase II, Task 4: Economic development benefits (5%)
  - Field firm survey (25%)
- Phase II, Task 5: Travel and smart growth benefits (5%)
  - Field household survey (25%)
- Other:
  - Held 6 team progress meetings between Rutgers staff
  - Coordinated firm and household survey design between VTC & BCSR/SRBI

ANTICIPATED ACTIVITIES NEXT PERIOD BY TASK

We anticipate undertaking the following activities during the 2nd quarter (April 1, 2008 to June 30, 2008) by task. The anticipated percentage of each task to be complete by the end of the quarter is noted in parentheses.

- Phase II, Task 1 (100%)
  - Finalize data collection

- Phase II, Task 2 (100%)
  - Finalize firm and household survey instruments
- Phase II, Task 3: Land development benefits (75%)
  - Complete narrative: RL development (100%)
  - Assemble data for permit analysis (100%)
  - Describe ridership and service characteristics; compare travel accessibility in region pre/post opening (50%)
  - Describe south New Jersey land use, travel and employment context (25%)
  - Model land values (25%)
- Phase II, Task 4: Economic development benefits (15%)
  - Field firm survey (100%)
  - Analyze local employment impacts (25%)
- Phase II, Task 5: Travel time and smart growth impacts (15%)
  - Map & describe changes in permits (25%)
  - Field household survey (100%)
  - Analyze travel impacts—using survey data (25%)

LIST OF DELIVERABLES PROVIDED IN THIS QUARTER BY TASK

None

PROGRESS ON IMPLEMENTATION AND TRAINING ACTIVITIES

None

PROBLEMS/PROPOSED SOLUTIONS

None

BUDGET EXPENDED AND REMAINING

Year 1 Total Project Budget (NJDOT Share)	$140,190
Modified Contract Amount:	$232,004
Total Project Expenditure to date	$84,000
% of Total Project Budget Expended	36%

NJDOT Bureau of Research
QUARTERLY PROGRESS REPORT
Date of report: March 19, 2008
Reporting period: Jan. 1, 2008 to March 31, 2008

Project Title:	**Seismic Design Considerations**
RFP NUMBER: **2008-09**	NJDOT RESEARCH PROJECT MANAGER: **W. Lad Szalaj**
TASK ORDER NUMBER/Study Number: **Task Order # 32**	PRINCIPAL INVESTIGATOR: **Anil K. Agrawal**
Project Starting Date: January 1, 2008 Year 1- Project Ending Date: 12/31/08	Period Starting Date: January 1, 2008 Period Ending Date: March 31, 2008

Task	% of Total	% of Task this quarter	% of Task to date	% of Total Complete
Phase I *- Literature Search*	**5**	**100**	**100**	**5**
Task 1: Development of Seismic Design Recommendations for New Bridges	20			
Task 2: Development of Examples Illustrating Design Recommendations.	10			
Task 3: Importance Classification of New Jersey Bridges	5			
Task 4: Development of Design Recommendations for Seismic Retrofit of Existing Bridges	20			
Task 5: Selection of Acceptable and Cost-Effective Retrofit Options	10			
Task 6: Development of Examples Illustrating Seismic Retrofit of Bridges.	10			
Task 7: Seismic Design Resources/Tools for Conditions Specific to New Jersey Bridges.	10			
Task 8: Final Report Documenting the Finding of the Research and a CD-ROM containing all design tools/resources	10			
Implementation				
TOTAL	**100%**		**100%**	**5%**

1. Progress this quarter by task: **Literature review has been completed. The researchers had a kick-off meeting on March 12, 2008 to decide the roadmap of the project.**

4. Progress on Implementation and Training Activities: **None**

5. Problems/Proposed Solutions: **None**

6. Budget Summary: **Not available yet.**

Year 1 Total Project Budget(# of years)	***NJDOT: $289,016*** ***UTRC: $25,000*** ***CCNY: $0***
Modified Contract Amount:	
Total Project Expenditure to date	
% of Total Project Budget Expended	

NJDOT Bureau of Research
QUARTERLY PROGRESS REPORT
Date of report: March 19, 2008
Reporting period: Jan. 1, 2008 to March 31, 2008

Project Title:	**Water Quality Mitigation and Banking**
RFP NUMBER: **2007-11**	NJDOT RESEARCH PROJECT MANAGER: **W. Lad Szalaj**
TASK ORDER NUMBER/Study Number: **Task Order #30**	PRINCIPAL INVESTIGATOR: **Anil K. Agrawal**
Project Starting Date: 1/1/ 2007 Project Ending Date: 12/31/2008	Period Starting Date: January 1, 2008 Period Ending Date: March 31, 2008

Task	% of Total	% of Task this quarter	% of Task to date	% of Total Complete
Phase I *- Literature Search*	**5**	**50**	**100**	**5**
Task 1*: Literature Search*	12	100	100	12
Task 2*: Assemble a technical panel composed of representatives from various agencies*	12	100	100	12
Task 3*: Make an inventory of future projects and determining the impact to impervious surface within watersheds*	12	100	100	12
Task 4*: Investigate water quality mitigation/banking/retrofit sites along State owned roadways within local watershed area*	8			
Task 5*: Identifying potential mitigation areas and retrofitting those with stormwater enhancements. Propose a methodology to plan, analyze and track improvements and banking credits*	8			
Task 6*: Select a specific mitigation/Bank location for the study. The feasibility evaluation will consider ROW, environmental constraints, watershed characteristics, and drainage data. List all environmental constraints, recommend BMP solution and cost estimates*	12			
Task 7*: Propose a tracking mitigation program to offset future program needs*	**8**			
Task 8*: Prepare Final Report documenting the finding of the research*	**18**			
Implementation	**5**			
TOTAL	**100%**			**41%**

1. Progress this quarter by task: **Tasks 3 has been completed. The team is currently working on Tasks 4.**

2. Proposed activities for next quarter by task: **In the next quarter, Tasks 4 and 5 will be finished completely.**

3. List of deliverables provided in this quarter by task (product date): **Technical memorandum of Tasks 1, 2 and 3 to be submitted.**

4. Progress on Implementation and Training Activities: **None**

5. Problems/Proposed Solutions: **None**

6. Budget Summary: **Not available yet.**

Total Project Budget(# of years)	***NJDOT: $310,000 UTRC: $80,002 CCNY: $9,358 No. of Years: 2***
Total Project Expenditure to date	**$85,311**
% of Total Project Budget Expended	**21.36%**
Task Order Number/Study Number:	**Task Order # 30**
Current Task Order Budget (# of years)	
Actual Expenditure to date against current task order	
% of current task order budget expended	%